

Pending Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. **(canceled)**
2. **(previously amended)** A recombinant V antigen protein free of other proteins encoded by a plasmid having the construct of pPAV13 shown in Figure 1 with a fusion protein replacing 67 N-terminal amino acids.
3. **(previously amended)** A truncated V antigen protein free of other proteins produced by recombinant techniques with a fusion protein replacing 67 N-terminal amino acids and which is for inducing a protective anti-V antigen antibody.
4. **(canceled)**
5. **(canceled)**
6. **(canceled)**
7. **(canceled)**
8. **(previously amended)** A V antigen protein free of other proteins encoded by a plasmid prepared by recombinant techniques encoding proteins controlling the effects of *Y. pestis* and inducing protective immunity, the plasmid comprising low calcium response regions V and H and the structural gene for staphylococcal protein A.
9. **(canceled)**

10. **(new)** An immunogenic polypeptide substantially free of antigenic contaminating proteins, comprising an antigenic polypeptide sequence of the 259 C-terminal amino acids of V antigen.
11. **(new)** The immunogenic polypeptide of claim 10, encoded by construct pAV13 shown in Figure 1.
12. **(new)** The immunogenic polypeptide of claim 10, comprising 31.5 kDa of the 259 C-terminal amino acids of V antigen.
13. **(new)** The immunogenic polypeptide of claim 10, comprising 19.3 kDa of the 259 C-terminal amino acids of V antigen.
14. **(new)** The immunogenic polypeptide of claim 12, comprising a 31.5 kDa N-terminal portion of the 259 C-terminal amino acids of V antigen.
15. **(new)** The immunogenic polypeptide of claim 10, comprising an antigenic polypeptide sequence of the 31.5 kDa N-terminal portion of the 259 C-terminal amino acids of V antigen.
16. **(new)** The immunogenic polypeptide of claim 15, wherein the antigenic polypeptide sequence does not comprise a portion of the 19.5 kDa N-terminal portion of the 259 C-terminal amino acids of V antigen.
17. **(new)** A V antigen-based *Y. pestis* vaccine, comprising an antigenic polypeptide sequence of the 259 C-terminal amino acids of V antigen.
18. **(new)** The V antigen-based *Y. pestis* vaccine of claim 17, wherein the antigenic polypeptide sequence is encoded by construct pAV13 shown in Figure 1.
19. **(new)** The V antigen-based *Y. pestis* vaccine of claim 17, comprising 31.5 kDa of the 259 C-terminal amino acids of V antigen.
20. **(new)** The V antigen-based *Y. pestis* vaccine of claim 17, comprising 19.3 kDa of the 259 C-terminal amino acids of V antigen.

21. **(new)** The V antigen-based *Y. pestis* vaccine of claim 19, comprising a 31.5 kDa N-terminal portion of the 259 C-terminal amino acids of V antigen.
22. **(new)** The V antigen-based *Y. pestis* vaccine of claim 17, comprising an antigenic polypeptide sequence of the 31.5 kDa N-terminal portion of the 259 C-terminal amino acids of V antigen.
23. **(new)** The V antigen-based *Y. pestis* vaccine of claim 22, comprising an antigenic polypeptide sequence that is not a part of the 19.5 kDa N-terminal portion of the 259 C-terminal amino acids of V antigen.
24. **(new)** A polyclonal antiserum comprising antibodies that specifically binds to antigenic polypeptide sequences of the 259 C-terminal amino acids of V antigen.
25. **(new)** A polyclonal antiserum comprising antibodies that specifically bind to antigenic polypeptide sequences of the 31.5 kDa N-terminal portion of the 259 C-terminal amino acids of V antigen.
26. **(new)** The polyclonal antiserum of claim 25, wherein the antiserum comprises antibodies that specifically bind to an antigenic polypeptide sequence that is not a part of the 19.5 kDa N-terminal portion of the 259 C-terminal amino acids of V antigen.
27. **(new)** An anti-*Yersinia* antiserum made by a method which comprises injecting a mammal with an immunogenic amount of an immunogenic polypeptide of any of claims 10-16.
28. **(new)** An anti-bubonic plague antiserum made by a method which comprises injecting a mammal with an immunogenic amount of an immunogenic polypeptide of any of claims 10-16.
29. **(new)** A method of treating or preventing a *Yersinia* infection in a mammal comprising administering an immunoprotective amount of an anti-V antigen antiserum raised against an immunogenic polypeptide of any of claims 10-16.

30. **(new)** A method of treating or preventing bubonic plague in a mammal comprising administering an immunoprotective amount of an anti-V antigen antiserum raised against an immunogenic polypeptide of any of claims 10-16.
31. **(new)** An isolated recombinant V protein antigen truncated at its N terminus by 67 amino acids and encoded by all but the 201 N-terminal base pairs of a V antigen gene.
32. **(new)** The truncated V protein of claim 31, encoded by construct pAV13 shown in Figure 1.
33. **(new)** A method of controlling *Y. pestis* in a mammal, comprising:
- (a) providing a vaccine comprised of the truncated V protein of claim 31; and
 - (b) administering an effective immunizing amount of the vaccine to the mammal.
34. **(new)** A method of controlling *Y. pestis* in a mammal, comprising:
- (a) providing a vaccine comprised of the truncated V protein of claim 32 and
 - (b) administering an effective immunizing amount of the vaccine to the mammal.
35. **(new)** A method of treating a mammal infected with *Y. pestis*, comprising:
- (a) providing a vaccine comprised of the truncated V protein of claim 31; and
 - (b) administering an effective immunizing amount of the vaccine to the mammal.
36. **(new)** A method of treating a mammal infected with *Y. pestis*, comprising:
- (a) providing a vaccine comprised of the truncated V protein of claim 32; and
 - (b) administering an effective immunizing amount of the vaccine to the mammal.
37. **(new)** An isolated nucleic acid encoding an immunogenic polypeptide fragment of a V antigen protein.
38. **(new)** An isolated nucleic acid encoding the immunogenic polypeptide of any of claims 10-16.